

AMENDMENTS TO THE CLAIMS

Listing of Claims

5 1. (previously amended) A method of injection molding a plastic product having a base wall and a sidewall, the method comprising the steps of:

 (a) shaping a mold cavity by combining a first mold part and a second mold part in opposition to one another;

 (b) injecting fluid plastic material into a base-wall section of a mold cavity; and

10 (c) conducting said injected plastic material through at least one flow guide in the base-wall section and thence into a sidewall section of the mold cavity;

 wherein step (a) comprises the step of:

 (d) shaping a portion of a given said base-wall section flow guide by partially opposing a row of recesses in the first mold part with a row of recesses in the second
15 mold part with the recesses in the first mold part being so staggered with respect to the recesses in the second mold part as to provide a chain of overlapping recesses that form a sequence of variable-opening throttles having openings that can vary within the given flow guide whenever the alignment between the combined first and second mold parts varies in response to variations in the thickness of a region of the sidewall section into
20 which injected plastic material is conducted from the given flow guide so that upon an increase in the thickness of said region the openings of said throttles in the given flow guide decrease and so that upon a decrease in the thickness of said region the openings of said throttles in the given flow guide increase.

2. (currently amended) A method according to Claim 1, further comprising the step of:

~~(d)~~ (e) within the sidewall section of the mold cavity, directing the flow of some of the injected plastic material by means of at least one sidewall-section flow guide.

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3. (currently amended) A method according to Claim 1, further comprising the step of:

~~(d)~~ (e) within the sidewall section of the mold cavity, directing the flow of some of the injected plastic material by means of a sidewall-section flow guide that extends from said at-least-one base-wall-section flow guide.

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4. (currently amended) A method according to Claim 1, wherein step ~~(b)~~ (c) comprises conducting said injected plastic material through a plurality of said throttled base-section flow guides and thence into the sidewall section of the mold cavity.

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5. (currently amended) A method according to Claim 4, wherein the method further comprises the step of:

~~(d)~~ (e) directing the injected fluid plastic material into thin-wall cavity sectors of the base-wall section to chambers adjacent the sidewall-section periphery of the base-wall section at a juncture of the plastic material directed into thin-wall cavity sectors of the base-wall section by the flow guides adjacent the thin-wall cavity sectors to thereby form ridges on the inside of the base wall of the injection-molded product.

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6. (currently amended) A method according to Claim 4, further comprising the step of:

(d) (e) within the sidewall section of the mold cavity, directing the flow of some of the injected plastic material by means of sidewall-section flow guides that extend
5 respectively from a plurality of said throttled base-wall-section flow guides.

7. (previously amended) A method according to Claim 1, wherein the width of a given said throttle is not more than the width of the overlapping recesses that form the given throttle.

10 8. (previously amended) A method according to Claim 1, wherein the width of a given said throttle is less than the width of the overlapping recesses that form the given throttle.

15 9. (currently amended) A method according to Claim 1, wherein the base-wall section includes a plurality of said throttled flow guides that extend radially for conducting said injected plastic material through the base-wall section and thence into the sidewall section of the mold cavity; further comprising the step of:

(d) (e) conducting the injected plastic material within the base-wall section by
20 means of a plurality of concentric flow guides that intersect the radially extending flow guides.

10. (currently amended) A method according to Claim 1, further comprising the step of:

(~~d~~) (e) adjusting said conduction within the at-least-one base-wall-section flow guide by protracting a movable mold part into said flow guide or by retracting a movable mold part from said flow guide.

11. (currently amended) A method according to Claim 1, wherein the mold parts include an adjustable cavity mold part and a core mold part for shaping at least a portion of the base-wall section of the mold cavity when the adjustable cavity mold part and the core mold part are combined in opposition to one another;

the method further comprising the step of:

(~~d~~) (e) initializing the position of the adjustable cavity mold part to adjust the alignment between the adjustable cavity mold part and the core mold part.

12. (currently amended) A method according to Claim 11, further comprising the step of:

(~~e~~) (f) dynamically varying the position of the adjustable cavity mold part to further adjust the alignment between the adjustable cavity mold part and the core mold part.

13. (currently amended) A method according to Claim 1, wherein the mold parts include an adjustable cavity mold part and a core mold part for shaping at least a portion of the base-wall section of the mold cavity when the adjustable cavity mold part and the core mold part are combined in opposition to one another;

5 the method further comprising the step of:

~~(d)~~ (e) dynamically varying the position of the adjustable cavity mold part to adjust the alignment between the adjustable cavity mold part and the core mold part.

14. (currently amended) A method according to Claim 1, further comprising the
10 step of:

~~(d)~~ (e) shaping the mold cavity by combining opposed first and second mold parts in a direction of mold closure; and

 wherein the shortest distance within the mold cavity in said direction of mold closure is larger than the elastic compression distance of the mold cavity when the mold
15 is compressed by a requisite clamping force.

15. (previously amended) A mold for injection molding a plastic product having a base wall and a sidewall, comprising:

mold parts for shaping a mold cavity for forming the product and a gate from which fluid plastic material can be injected into a base-wall section of the mold cavity;

5 wherein the base-wall section includes at least one flow guide for conducting said injected plastic material through the base-wall section and thence into a sidewall section of the mold cavity; and

wherein the mold parts include a first mold part that includes a row of recesses and a second mold part that includes a row of recesses that are partially opposed to the
10 row of recesses in the first mold part to shape a portion of a given said base-wall section flow guide when the first and second mold parts are combined in opposition to one another with the recesses in the first mold part being so staggered with respect to the recesses in the second mold part as to provide a chain of overlapping recesses that form a sequence of variable-opening throttles having openings that can vary within the given
15 flow guide whenever the alignment between the combined first and second mold parts varies in response to variations in the thickness of a region of the sidewall section into which injected plastic material is conducted from the given flow guide so that upon an increase in the thickness of said region the openings of said throttles in the given flow guide decrease and so that upon a decrease in the thickness of said region the openings of
20 said throttles in the given flow guide increase.

16. (original) A mold according to Claim 15, wherein the sidewall section of the mold cavity includes at least one flow guide for directing the flow of some of the injected plastic material.

17. (original) A mold according to Claim 15, wherein said at-least-one sidewall-section flow guide extends from said at-least-one base-wall-section flow guide.

5 18. (original) A mold according to Claim 15, wherein the base-wall section includes a plurality of said throttled flow guides for conducting said injected plastic material through the base-wall section and thence into the sidewall section of the mold cavity.

10 19. (original) A mold according to Claim 18, wherein the sidewall section includes a plurality of flow guides respectively extending from a plurality of said throttled base-wall-section flow guides for directing the flow of some of the injected plastic material within the sidewall-section.

15 20. (original) A mold according to Claim 18, wherein the mold cavity further includes chambers adjacent the sidewall-section periphery of the base-wall section at a juncture of the plastic material directed into thin-wall cavity sectors of the base-wall section by flow guides adjacent the thin-wall cavity sectors for forming ridges on the inside of the base wall of the injection-molded product.

20 21. (previously amended) A mold according to Claim 15, wherein the width of a given said throttle is not more than the width of the overlapping recesses that form the given throttle.

25 22. (previously amended) A mold according to Claim 15, wherein the width of a given said throttle is less than the width of the overlapping recesses that form the given

throttle.

23. (original) A mold according to Claim 15, wherein the base-wall section includes a plurality of said throttled flow guides that extend radially for conducting said
5 injected plastic material through the base-wall section and thence into the sidewall section of the mold cavity and a plurality of concentric flow guides that intersect the radially extending flow guides.

24. (original) A mold according to Claim 15, wherein the mold parts include a
10 movable mold part that is disposed for protraction into and retraction from the at-least-one base-wall-section flow guide for adjusting said conduction within said flow guide.

25. (previously amended) A mold according to Claim 15, wherein the mold parts include an adjustable cavity mold part and a core mold part for shaping at least a portion
15 of the base-wall section of the mold cavity when the adjustable cavity mold part and the core mold part are combined in opposition to one another;

the mold further comprising:

means for initializing the position of the adjustable cavity mold part to adjust the alignment between the adjustable cavity mold part and the core mold part.

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26. (original) A mold according to Claim 25, further comprising:

means for dynamically varying the position of the adjustable cavity mold part to adjust the alignment between the adjustable cavity mold part and the core mold part.

27. (previously amended) A mold according to Claim 15, wherein the mold parts include an adjustable cavity mold part and a core mold part for shaping at least a portion of the base-wall section of the mold cavity when the adjustable cavity mold part and the core mold part are combined in opposition to one another;

5 the mold further comprising:

means for dynamically varying the position of the adjustable cavity mold part to adjust the alignment between the adjustable cavity mold part and the core mold part.

28. (original) A mold according to Claim 15, wherein the mold cavity is shaped
10 by combining opposed first and second mold parts in a direction of mold closure; and

wherein the shortest distance within the mold cavity in said direction of mold closure is larger than the elastic compression distance of the mold cavity when the mold is compressed by a requisite clamping force.

15 Claims 29-44 (canceled)